REMARKS

The Examiner is thanked for the performance of a thorough search.

By this amendment, Claims 5, 13, 15, 16, 20-21, 28-37, 42-43, 47 and 75 have been cancelled. Claims 1-4, 6-12, 14, 17-19, 22-27, 38-41, 44-46, 48-74, 76-80 have been amended. Hence, Claims 1-4, 6-12, 14, 17-19, 22-27, 38-41, 44-46, 48-74, 76-80 are pending in the application.

As a preliminary matter, receipt of the Notice of Draftsperson's Patent Drawing Review is acknowledged. Applicant recognizes that the present drawings are acceptable for examination purposes only. Formal drawings will be submitted after completion of the examination process upon the issuance of a Notice of Allowance.

RENUMBERING OF CLAIMS

Claims 49-79 have been renumbered as claims 50-80 pursuant to 37 CFR1.126 and as required by this Office Action. The claim dependency of these claims have also been changed.

SUMMARY OF THE REJECTIONS/OBJECTIONS

Claims 1-4, 6-12, 14, 16-19, 22-27, 53-69, and 78-79 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Claims 1-2, 4, 6-8, 10-12, 14, 16-18, 22-24, 26-27, 38-41, 44-45, 48-49, 51-56, 58-65, 67-74, 76, and 80 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Japanese Patent Number 2-183798 issued to *Nagumo* ("*Nagumo*"). Claims 3, 19, 46, and 77-79 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Japanese Patent Number 2-183798 issued to *Nagumo* ("*Nagumo*") in view of U.S. Patent Number 5,102,723 issued to *Pepin* ("*Pepin*"). Claims 9, 25, 57, and 66 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Japanese Patent Number 2-183798 issued to *Nagumo* ("*Nagumo*") in view of U.S. Patent Number 6,119,575 issued to *Dragone* et al. ("*Dragone*"). The rejections are respectfully traversed.

RESPONSE TO REJECTIONS NOT BASED ON THE PRIOR ART

Claims 1-4, 6-12, 14, 16-19, 22-41, 44-46, 48-74, 76-80 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-4, 6-12, 14, 17-19, 22-41, 44-46, 48-74, 76-80 have been amended to clarify that the claims are intended to be drawn to the combination (for example, "a ballistic barrier in combination with a vehicle").

The use of the phrase "high strength" has been amended as required by the Examiner.

TERMINAL DISCLAIMER

A terminal disclaimer is attached as a separate paper to this Amendment and Response as required by this Office Action.

RESPONSE TO REJECTIONS BASED ON THE PRIOR ART

Claims 1-2, 4, 6-8, 10-12, 14, 16-18, 22-24, 26-27, 38-41, 44-45, 48-49, 51-56, 58-65, 67-74, 76, and 80 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Japanese Patent Number 2-183798 issued to *Nagumo* ("*Nagumo*"). Claims 3, 19, 46, and 77-79 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Japanese Patent Number 2-183798 issued to *Nagumo* ("*Nagumo*") in view of U.S. Patent Number 5,102,723 issued to *Pepin* ("*Pepin*"). Claims 9, 25, 57, and 66 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Japanese Patent Number 2-183798 issued to *Nagumo* ("*Nagumo*") in view of U.S. Patent Number 6,119,575 issued to *Dragone et al.* ("*Dragone*"). The rejections are respectfully traversed.

CLAIMS 1, 17, 38, 44, 53, 64, 69, 70, 80

The Office Action states that *Nagumo* discloses "a) an outer layer, b) at least one layer of high strength fabric...(1, 3 or 4, 4 o5, page 7, lines 16-19 of translation)." However, the portion of *Nagumo* cited describes "woven material **bonded** to the inside of an outer plate." For example, *Nagumo* states: "three-dimensional compound woven material (2) shown in Figure 3(a) is constructed by bonding front outer material (3) and back outer material (4) together by adhesive..." (page 5, lines 10-13 of translation).

While *Nagumao* discloses a three-dimensional compound woven material and an outer shell, these do not relate to a ballistic barrier being substantially fixedly positioned towards an outer shell and **at a finite distance away from the outer shell** (see the limitation of Claim 1 below).

In contrast, *Nagumo* discloses a three-dimensional woven material "constructed **by bonding front outer material (3) and back outer material (4) together by adhesive**..." (page 5, lines 10-13 of translation). Thus, the bonding by adhesive necessarily means that the three-dimensional woven material is **not** at a finite distance away from the outer shell This indicates that *Nagumo* does not anticipate the claimed invention. Further, *Nagumo* does not disclose, teach, suggest, or in any way render obvious Applicants' claimed invention.

Independent claim 1, as amended, features among others, the limitation of:

> "said at least one layer of fabric being substantially fixedly positioned towards said outer shell and **at a finite distance away from said outer shell.**"

In Applicants' specification as filed, page 8, lines 19-31 and page 9, lines 1-21 contain support for at least one layer of fabric being substantially fixedly positioned towards said outer shell and **at a finite distance away from said outer shell.** By not having the "at least one layer of fabric being substantially fixedly positioned towards said outer shell and **at a finite distance away from said outer shell"**, the layer of fabric is

able to deflect when hit by a fragment of munition or projectile, and thus would be more efficient at absorbing the kinetic energy of the fragment of munition or projectile.

Because *Nagumo* fails to anticipate, disclose, teach, suggest, or in any way render obvious Applicants' claimed invention, it is respectfully submitted that, for at least the reasons stated above, Claim 1 is allowable over the art of record and is in condition for allowance.

Independent claims 17, 38, 44, 53, 64, 69, 70, and 80 contain features that are similar to those described above with respect to Claim 1, and in particular all require that the layer of fabric be substantially fixedly positioned towards an outer shell or outer housing, as the case may be, "**at a finite distance away**" from the outer shell or outer housing. Therefore, based on at least the reasons stated above, it is respectfully submitted that independent claims 17, 38, 44, 53, 64, 69, 70, and 80 are allowable over the art of record and are in condition for allowance.

CLAIMS 2-4, 6-12, 14, 18-19, 22-27, 39-41, 45-46, 48-52, 54-63, 65-68, 71-74, 76-79

Claims 2-4, 6-12, 14, are either directly or indirectly dependent on independent claim 1, claims 18-19, 22-27 are either directly or indirectly dependent on independent claim 17, claims 39-41 are either directly or indirectly dependent on independent claim 38, claims 45-46, 48-52 are either directly or indirectly dependent on independent claim 44, claims 54-63 are either directly or indirectly dependent on independent claim 53, claims 65-68 are either directly or indirectly dependent on independent claim 64, claims 71-74, and 76-77 are dependent on independent claim 70, claim 78 is directly dependent on independent claim 53, claim 79 is directly dependent on independent claim 64, and thus include each and every feature of the corresponding independent claims. Therefore, it is respectfully submitted that Claims 2-4, 6-12, 14, 18-19, 22-27, 39-41, 45-46, 48-52, 54-63, 65-68, 71-74, and 76-79 are allowable for the reasons given above with respect to independent claims 1, 17, 38, 44, 53, 64, 69, 70, 80.

IV. CONCLUSION

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any fee shortages or credit any overages to Deposit Account No. 02-3964.

Respectfully submitted,
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Date: March 13, 2002

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Hon. Commissioner for Patents, BOX AMEND, Washington, DC 20231

on March 13, 2002 by Sharyl Brown

COPY OF PAPERS ORIGINALLY FILED

MARKED-UP VERSION OF CLAIMS

What is claimed is:

1. A ballistic barrier in combination with an outer shell of a vehicle for protecting objects in an interior of a said vehicle from damage due to projectile penetration, ~~the vehicle having~~ ~~an~~ said outer shell defining ~~the interior, the barrier~~ said interior of said vehicle, said ballistic barrier in combination with said outer shell comprising:

at least one layer of ~~high strength fabric disposed in the interior of the vehicle and positioned towards the outer shell of the vehicle; and~~ fabric disposed in said interior of said vehicle, wherein said at least one layer of fabric has a light weight and is capable of absorbing kinetic energy of a fragment munition or projectile; and

~~the high strength~~

said at least one layer of fabric being substantially fixedly positioned ~~with respect to the outer shell of the vehicle.~~ towards said outer shell and at a finite distance away from said outer shell.

2. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises a plurality of plies.

3. ~~A~~ The ballistic barrier as recited in claim 2, wherein one of ~~the~~ said plurality of plies is a felt.

4. ~~A~~ The ballistic barrier as recited in claim 2, wherein at least one of ~~the~~ said plurality of plies is ~~comprised of~~ comprises woven fibers.

5. CANCELLED

6. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises a polymer material.

7. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises aramid material.

8. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises polyethylene material.

9. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises polybenzoxazole material.

10. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said vehicle includes an inner panel, and wherein ~~the~~ said at least one layer of ~~high strength~~ fabric is positioned between ~~the~~ said outer shell and said inner panel of ~~the~~ said vehicle.

11. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said vehicle is primarily designed for military applications.

12. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said vehicle is primarily designed for transporting at least one of cargo and passengers.

13. CANCELLED.

14. ~~A~~ The ballistic barrier as recited in claim 1, wherein ~~the~~ said vehicle is an aircraft.

15. CANCELLED

16. CANCELLED

17. A ballistic barrier in combination with a an outer housing of a structure for protecting objects in ~~a~~ said structure from damage due to projectile penetration, ~~the structure having an~~ said ballistic barrier in combination with said outer housing~~, the barrier~~ comprising:

at least one layer of ~~high strength fabric positioned towards the outer housing of the structure; and~~ fabric disposed in said interior of said structure, wherein said at least one layer is capable of absorbing kinetic energy of a fragment munition or projectile and has a light weight; and

~~the high strength~~

said at least one layer of fabric being substantially fixedly positioned ~~with respect to the structure.~~ towards said outer housing and at a finite distance away from said outer housing.

18. ~~A~~ The ballistic barrier as recited in claim 17, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises a plurality of plies.

19. ~~A~~ The ballistic barrier as recited in claim 18, wherein one of ~~the~~ said plurality of plies is a felt.

20. CANCELLED.

21. CANCELLED.

22. ~~A~~ The ballistic barrier as recited in claim 17, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises a polymer material.

23. ~~A~~ The ballistic barrier as recited in claim 17, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises aramid material.

24. ~~A~~ The ballistic barrier as recited in claim 17, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises polyethylene material.

25. ~~A~~ The ballistic barrier as recited in claim 17, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises polybenzoxazole material.

26. ~~A~~ The ballistic barrier as recited in claim 17, wherein said at least one layer of ~~high strength~~ fabric is positioned towards an inner surface of ~~the~~ said outer housing of ~~the~~ said structure.

27. ~~A~~ The ballistic barrier as recited in claim 17, wherein said at least one layer of ~~high strength~~ fabric is positioned towards an outer surface of ~~the~~ said outer housing of ~~the~~ said structure.

28. CANCELLED

29. CANCELLED

30. CANCELLED

31. CANCELLED

32. CANCELLED

33. CANCELLED

34. CANCELLED

35. CANCELLED

36. CANCELLED

37. CANCELLED

38. A method for protecting objects in an interior of a vehicle from damage due to projectile penetration, ~~the~~ said vehicle having an outer shell defining ~~the~~ said interior of said vehicle, the method comprising:

positioning at least one layer of ~~high strength fabric in the interior of the vehicle towards the outer shell of the vehicle; and~~ fabric in said interior of said vehicle towards said outer shell of said vehicle and at a finite distance away from said outer shell, wherein said at least one layer of fabric has a low weight and is capable of absorbing a kinetic energy of a fragment of munition or projectile; and

~~attaching the high strength fabric to the vehicle such that the high strength~~

attaching said at least one layer of fabric to said vehicle such that said at least one layer of fabric is substantially fixedly positioned ~~with respect to the outer shell of the vehicle.~~ towards said outer shell and at a finite distance away from said outer shell.

39. The method as recited in claim 38, wherein ~~the~~ said vehicle includes an inner panel, and wherein ~~the~~ said at least one layer of ~~high strength~~ fabric is positioned between ~~the~~ said outer shell and said inner panel of ~~the~~ said vehicle.

40. ~~A~~ The method as recited in claim 38, wherein ~~the~~ said vehicle is primarily designed for military applications.

41. ~~A~~ The method as recited in claim 38, wherein ~~the~~ said vehicle is primarily designed for transporting at least one of cargo and passengers.

42. CANCELLED

43. CANCELLED

44. A method for protecting objects in a structure from damage due to projectile penetration, ~~the~~ said structure having an outer housing, the method comprising:

positioning at least one layer of fabric in said structure towards said outer housing of said structure and at a finite distance away from said outer housing, wherein said at least one layer of ~~high strength fabric towards the outer housing of the structure; and~~

~~attaching the high strength fabric to the structure such that the high strength fabric is substantially fixedly positioned with respect to the structure.~~

~~high strength fabric~~ fabric has a low weight and is capable of absorbing a kinetic energy of a fragment of munition or projectile; and

attaching said at least one layer of fabric to said structure such that said at least one layer of fabric is substantially fixedly positioned towards said outer housing and at a finite distance away from said outer housing.

45. ~~A~~ The method as recited in claim 44, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises a plurality of plies.

46. ~~A~~ The method as recited in claim 45, wherein one of said plurality of plies ~~the plies~~ is a felt.

47. CANCELLED

48. ~~A~~ The method as recited in claim 44, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises aramid material.

49. ~~A~~ The method as recited in claim 44, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises polyethylene material.

50. ~~A~~ The method as recited in claim 44, wherein ~~the~~ said at least one layer of ~~high strength~~ fabric comprises polybenzoxazole material.

51. ~~A~~ The method as recited in claim 44, further comprising positioning said at least one layer of ~~high-strength~~ fabric towards an inner surface of ~~the~~ said outer housing ~~of the structure.~~.

52. ~~A~~ The method as recited in claim 44, further comprising positioning said at least one layer of ~~high-strength~~ fabric towards an outer surface of ~~the~~ said outer housing ~~of the structure~~.

53. A fire barrier in combination with a vehicle for protecting objects in an interior of ~~a~~ said vehicle from damage due to fire, ~~the~~ said vehicle having an outer shell defining ~~the~~ said interior, ~~the~~ said fire barrier in combination with said vehicle comprising:
at least one layer of fire resistant fabric disposed in said interior of said vehicle and substantially fixedly positioned towards said outer shell of said vehicle and at a finite distance away from said ~~the interior of the vehicle and positioned towards the outer shell of the vehicle; and~~
~~the fire resistant fabric being substantially fixedly positioned with respect to the~~ outer shell ~~of the vehicle~~.

54. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said at least one layer of fire resistant fabric comprises a plurality of plies.

55. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said at least one layer of fire resistant fabric comprises a polymer material.

56. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said at least one layer of fire resistant fabric comprises aramid material.

57. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said at least one layer of fire resistant fabric comprises polybenzoxazole material.

58. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said vehicle includes an inner panel, and wherein ~~the~~ said at least one layer of fire resistant fabric is positioned between ~~the~~ said outer shell and said inner panel of ~~the~~ said vehicle.

59. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said vehicle is primarily designed for military applications.

60. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said vehicle is primarily designed for transporting at least one of cargo and passengers.

61. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said vehicle is an aircraft.

62. ~~A~~ The fire barrier as recited in claim 53, further including a layer of ~~high strength~~ projectile resistant fabric positioned in ~~the~~ said interior of ~~the~~ said vehicle for protecting objects in ~~an~~ said interior of ~~a~~ said vehicle from damage due to projectile penetration.

63. ~~A~~ The fire barrier as recited in claim ~~53~~ 62, wherein ~~the~~ said layer of ~~fire~~ projectile resistant fabric is fixedly positioned with respect to ~~the~~ said outer shell of ~~the~~ said vehicle.

64. A fire barrier in combination with a structure for protecting objects in ~~a~~ said structure from damage due to fire, ~~the~~ said structure having an outer shell defining ~~the interior, the barrier~~ an interior of said structure, said fire barrier in combination with said structure comprising:

at least one layer of fire resistant fabric disposed in ~~the~~ said interior of ~~the~~ said structure and ~~positioned towards the outer shell of the structure; and~~

~~the fire resistant fabric being~~ substantially fixedly positioned ~~with respect to the outer shell of the structure.~~ towards said outer shell and at a finite distance away from said outer shell.

65. ~~A~~ The fire barrier as recited in claim 64, wherein ~~the~~ said at least one layer of fire resistant fabric comprises aramid material.

66. ~~A~~ The fire barrier as recited in claim 64, wherein ~~the~~ said at least one layer of fire resistant fabric comprises polybenzoxazole material.

67. ~~A~~ The fire barrier as recited in claim 64, further including a layer of ~~high strength~~ projectile resistant fabric positioned in ~~the~~ said interior of ~~the~~ said structure for protecting objects in ~~an~~ said interior of ~~a~~ said structure from damage due to projectile penetration.

68. ~~A~~ The fire barrier as recited in claim ~~64~~ 67, wherein ~~the~~ said layer of ~~fire~~ projectile resistant fabric is fixedly positioned with respect to ~~the~~ said outer shell of ~~the~~ said structure.

69. A ballistic and fire barrier in combination with a vehicle for protecting objects in an interior of ~~a~~ said vehicle from damage due to projectile penetration and fire, ~~the~~ said vehicle having an outer shell defining ~~the interior, the barrier~~ said interior, said ballistic and fire barrier in combination with said vehicle comprising:

at least one layer of ~~high strength~~ fabric disposed in ~~the~~ said interior of ~~the~~ said vehicle and substantially fixedly positioned towards said outer shell and at a finite distance from said outer shell, wherein said ~~the outer shell of the vehicle;~~ at least one layer of fabric has a light weight and is capable of absorbing kinetic energy of a fragment munition or projectile, wherein said at least one layer of fabric is at a finite distance away from said outer shell; and

at least one layer of fire resistant fabric disposed in ~~the~~ said interior of ~~the~~ said vehicle and ~~positioned towards the outer shell of the vehicle;~~

~~the high strength fabric being~~ substantially fixedly positioned towards said outer shell and at a finite distance away from said ~~with respect to the outer shell of the vehicle; and~~

~~the fire resistant fabric being substantially fixedly positioned with respect to the~~ outer shell ~~of the vehicle~~.

70. A method for protecting objects in an interior of a vehicle from damage and injury due to fire, ~~the~~ said vehicle having an outer shell defining ~~the~~ said interior of said vehicle, the method comprising:

positioning at least one layer of fire resistant fabric in ~~the~~ said interior of ~~the~~ said vehicle towards ~~the~~ said outer shell of ~~the~~ said vehicle; and

attaching ~~the~~ said at least one layer of fire resistant fabric to ~~the~~ said vehicle such that ~~the~~ said at least one layer of fire resistant fabric is substantially fixedly positioned ~~with respect to the~~ at a finite distance away from said outer shell of ~~the~~ said vehicle.

71. ~~A~~ The method as recited in claim 70, wherein ~~the~~ said vehicle includes an inner panel, and wherein ~~the~~ said at least one layer of fire resistant fabric is positioned between ~~the~~ said outer shell and said inner panel of ~~the~~ said vehicle.

72. ~~A~~ The method as recited in claim 70, wherein ~~the~~ said vehicle is primarily designed for military applications.

73. ~~A~~ The method as recited in claim 70, wherein ~~the~~ said vehicle is primarily designed for transporting at least one of cargo and passengers.

74. ~~A~~ The method as recited in claim 70, wherein ~~the~~ said vehicle is an aircraft.

75. CANCELLED.

76. ~~A~~ The method as recited in claim 70 ~~fiu-ther~~, further comprising positioning at least one layer of ~~high-strength fabric in the interior of the~~ fabric that has a low weight and is capable of absorbing kinetic energy of a fragment munition or projectile in said interior of said vehicle for protecting objects in ~~the~~ said interior of ~~the~~ said vehicle from damage due to projectile penetration.

77. ~~A~~ The method as recited in claim 70, wherein ~~the~~ said at least one layer of fire resistant fabric comprises a felt.

78. ~~A~~ The fire barrier as recited in claim 53, wherein ~~the~~ said at least one layer of fire resistant fabric comprises a fire resistant felt.

79. ~~A~~ The fire barrier as recited in claim 64, wherein ~~the~~ said at least one layer of fire resistant fabric comprises a fire resistant felt.

80. ~~A~~ The ballistic and fire barrier in combination with a structure for protecting objects in an interior of a said structure from damage and injury due to projectile penetration and fire, ~~the~~ said structure having an outer shell defining ~~the interior, the barrier~~ said interior of said structure, said ballistic and fire barrier in combination with said structure comprising:

at least one layer of fabric disposed in said interior of said structure and substantially fixedly positioned towards said outer shell and at a finite distance away from said outer shell, wherein said ~~high strength fabric disposed in the interior of the structure and positioned towards the outer shell of the structure;~~ at least one layer of fabric has a light weight and is capable of absorbing kinetic energy of a fragment munition or projectile; and

at least one layer of fire resistant fabric disposed in ~~the~~ said interior of ~~the~~ said structure and ~~positioned towards the outer shell of the structure;~~

~~the high strength fabric being~~ substantially fixedly positioned towards said outer shell and at a finite distance away from said ~~with respect to the outer shell of the structure; and~~

~~the fire resistant fabric being substantially fixedly positioned with respect to the~~ outer shell ~~of the structure~~.